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ABSTRACT

This study focused on whether actual or stereotypic associations with a speaker's body type would affect his or her credibility. Effects on the source-credibility ratings submitted by a total of 165 students were investigated for three different sources' body types. A significant main effect was found for body type but not for the blocked variable, sex of receiver. The ectomorph (thin) and mesomorph (muscular) were not significantly different from each other, but both were significantly more credible than the endomorph (fat), according to the qualification and safety/trustworthiness dimensions of source credibility. A nonverbal component of source credibility, body type, was found that corroborated the physical-attractiveness hypothesis. Suggestions for future work are made. (RL)

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Body Type and Sex of Receiver:

Their Effects on Source Credibility

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Abstract

Three different sources' body types were investigated for effects on source credibility ratings. A significant main effect was found for body type but not for the blocked variable, sex of receiver. The ectomorph (thin) and mesomorph (muscular) were not significantly different from each other, but both were significantly more credible than the endomorph (fat) on the qualification ($p < .02$) and safety/trustworthiness ($p < .001$) dimensions of source credibility. A nonverbal component of source credibility, body type, was found which corroborated the physical attractiveness hypothesis. Suggestions for future work were made.

Body Type and Sex of Receiver: Their Effects on Source Credibility

Sheldon[1] defined somatotyping as an attempt at quantification of the primary physical components of the human constitution. His three basic somatotypes were endomorphy (roundness), mesomorphy (muscularity), and ectomorphy (linearity). Using these three categories, Sheldon found relationships between physique and temperament. Traits of relaxation, friendliness, and the enjoyment of pleasure correlated with endomorphy; physical activity, adventurousness and dominance correlated with mesomorphy; and mental activity and introversion correlated with ectomorphy. Sheldon's results, while extremely interesting, have also been highly criticized for the following reasons: 1) the ratings of somatotype and temperament traits were both done by the experimenter;[2] 2) there were statistical and computational errors;[3] 3) the somatotyping was subjective;[4] and 4) the temperament ratings were more physical and psychological.[5] At the same time, however, Walker,[6] using photographs of nude children, and Cortes and Gatti,[7] using self-description of temperament, both found support for Sheldon's original work. Hall and Lindzey,[8] in a review of Sheldon's work reduce the controversy over the relationship between somatype and temperament somewhat by concluding that Sheldon was correct in his assertion that a significant relationship exists between physique and temperament but that none of the subsequent research supports the magnitude of the relationship claimed by Sheldon.

(footnote from title page to be located here.)

Physique-temperament/personality correlations may exist, if not always in fact, at least many times in sterotyped association.[9] Physical stereotypes are culturally based, and, as a consequence, are influenced by social variables, i.e., the media and the various reference groups with whom we associate. Fat men are supposed to be jolly, generous, or essentially good humored. Thin men are perceived as introverted, quiet, or reserved. Strong men are often thought of as confident. These stereotypes, according to Knapp,[10] will influence the way a person is perceived, responded to and expected to be. This study tried to examine whether actual or stereotypic associations to a speaker's body type would effect his credibility.

Source credibility research in the past has investigated dimensions of credibility such as the dynamism, qualification, and safety/trustworthiness of the source.[11] Credibility has been found to be directly related to physical attractiveness[12] and male sources.[13] Mesomorphs and ectomorphs are perceived as more attractive body types than are endomorphs in the present cultural milieu.[14] Therefore, the investigators' hypothesized that if a source was rated as a mesomorph or ectomorph, then he would be perceived as more credible than an endomorphic source would be.

Method

Research Design

A 3 X 2 factorial design was used in this study. The first independent variable was body type, corresponding to Sheldon's classification schema, endomorph, mesomorph, and ectomorph. The second independent (blocking) variable was the sex of the receiver. The dependent variable was the perceived source credibility attributed to the various male sources.

Subjects

Students totalling 165 from six sections of introductory speech courses were selected. The endomorphic condition was viewed by 22 males and 30 females. The mesomorphic condition was viewed by 29 males and 28 females. The ectomorphic condition was seen by 24 males and 32 females. The average age of the subjects who participated in the study was 21.14 years old.

Preparation of Stimuli

Three male actors were selected who fit Sheldon's descriptions of the three body types. All three sources wore light colored, long sleeve shirts, open at the collar, and dark pants. Since past research[15] has shown that dress can be a factor in personality perception and credibility ratings of sources, dress variables were controlled. Differing facial characteristics of the sources were eliminated by having the sources wear a ski mask. This allowed the shape of their heads to remain visible yet control for physiognomic, hair, and age differences. A cover story, indicating that the source chose to remain anonymous to protect his job, was told to subjects to give face validity to the use of the mask. In the pilot study fifteen or seventeen subjects were unaware they were even participating in an experiment. Therefore, the experimenters concluded the mask did not interfere with the measurement of the dependent variable.

The mesomorph's message was recorded on audio tape. The three sources lip synched their presentation to the audio recording. The mouth movements were barely visible because of the mask. A single audio recording was used to eliminate the possibility of differential paralinguistic cues affecting the credibility ratings.[16]

Sources were instructed to keep their right hand on their hip throughout the reading of the message, while the text of the message was held in the left hand away from their body so the camera's view was not obstructed. All sources stood upright, and the message was delivered from this position. This controlled for the openness or closedness of the gestures[17] and posture. In this manner, the videotape was made with three identical messages except for the source's body type.

Procedure

Six classes were randomly presented one of the three sources' four-minute message on Legalized Casino Gambling--The Las Vegas Plan. Subjects were told that the State of New York had issued a small grant to the college's Department of Communication to be used for Public Opinion and Research purposes. With the cooperation of the State's Racing and Wagering Commission, a videotape had been made of several speakers with differing opinions on the topic of legalized gambling casinos. The subjects were asked to watch one of the speakers and rate his message and presentation.

The questionnaire which was distributed contained scales to measure attitude change and source credibility. Two dimensions of source credibility were investigated: Qualification and Safety/Trustworthiness.[18] Berlo, Lemmert, and Mertz found the qualification and safety/trustworthiness scales accounted for 16% and 34% of the variance respectively. The dynamism scale was eliminated because of the gestural controls used in creating the videotape.

Verification of Independent Variable Manipulation

Nine members of a graduate class in non-verbal communication were used

as independent judges to verify the success of the manipulation of the independent variable. A one-way analysis of variance gave an $F = 22.57$, $p < .01$. The interjudge reliability ranged from $r = .91$-99, $p < .05$. On the basis of these data, the authors concluded that the sources' body types were successfully manipulated.

Results

A two-way analysis of variance with an unweighted means solution for unequal n's was used to analyze each dependent variable. Table 1 contains the mean scores and Table 2 contains a summary of the F-tests.

Insert Table 1 and Table 2 about here

Support was found for the experimenters' hypothesis regarding body type. Body type significantly influenced the qualification ($p < .02$) and the safety/trustworthiness ($p < .001$) dimensions of source credibility. Table 3 presents individual cell mean comparisons which reveal that the endomorphic source was perceived as significantly lower in qualification and safety/trustworthiness than were the mesomorphic or ectomorphic sources. There were no significant differences between the mesomorphic and ectomorphic sources. These results support the conclusion that while body type significantly affects source credibility, the ectomorph and mesomorph are perceived approximately the same, and the endomorph is perceived as significantly lower in source credibility.

Insert Table 3 about here

The effect size for qualification was $E^2 = .05$ which corresponds to a medium effect size[19] and accounts for 5% of the variance. The effect size for safety/trustworthiness was $E^2 = .11$ which Cohen would describe as large and accounts for 11% of the variance.

The blocked variable, sex of receiver, was not significant for either dimension of source credibility. Thus, the effect of body type on source credibility was distributed evenly among all subjects, regardless of sex. There was also no significant interaction effect on any of the dimensions of source credibility.

Attitudes about legalized gambling were also measured with source credibility. Table 4 contains an analysis of variance summary for the attitude scales. Body type was not significant in influencing attitudes but sex of receiver was ($p < .01$).

Discussion

It seems clear that how credible a male speaker is depends, in part, on the shape of his body. Credibility has been linked to dimensions like safety, trustworthiness, character, or dynamism. It has been found to vary with the sex and physical attractiveness of the source. But what elements make up these impressions people make of each other? One of these elements is body type. Both muscular and slender speakers enjoy an equal advantage over corpulent speakers. This study corroborates the physical attractiveness

explanation for source credibility and opinion change.[20]

In an analysis of the attitude scales, the male receivers were more influenced by the message than were the female receivers. This result is most easily explained by the content area, gambling, which is typically a male domain. Since this study was not designed to test various message's effects with body types, no definitive conclusion can be stated. Since body type may interact with particular messages, i.e., an endomorph may be higher in credibility at a Weight Watchers meeting, future work should explore this possible interaction.

There were no significant changes in attitudes because of the speaker's body types. However, there was a very significant change on the source credibility scales. Perhaps credibility is more influenced by presentation variables, such as the presenter's physical appearance, than attitude change is. Future investigation should be done here to clarify this inconsistency in the results.

Credibility is a complex variable with context as well as content aspects, which play significant roles in its effect on persuasion. The present study suggests that nonverbal cues, which are less apparent than traditional message variables, also have an effect on how credible a source is judged.

No significant differences were found with respect to receiver sex on either of the dimensions of source credibility tested. The fat source was seen as less credible by both men and women alike. This finding does not support Miller and McReynolds' contention that female receivers rated male sources higher on competence than male receivers did.[21] This study is more supportive of paralinguistic research on source credibility. Both

Addington and Pierce and Conklin have discriminated amongst vocalizations and found some to be influential on speakers' credibility ratings.[22] However, neither study found differences between male and female listeners. It would seem that nonverbal cues of body type, which are less apparent, do not influence the listeners' ratings, while more apparent variables, such as the speakers' sex, do.[23] Therefore, the investigators suggest replication, and anticipate that receiver's sex will not need to be controlled in future work dealing with body type and source credibility.

Future work could also include a re-investigation of body type and source credibility in conjunction with other nonverbal, verbal and message variables. Upon gathering this type of data, a multi-channel analysis could be done and each factor could be weighted as to their relative effects on the source's total credibility. What effect does the receiver's body type have on credibility? Is a fat person more negative toward a fat speaker than a thin or muscular person, because it reminds them of themselves? Would the present study's findings be heightened if female sources were used, since females are under the most social pressure to be thin and not fat? And finally, is women's liberation and male and female re-examination of sex roles eliminating sex differences in judgments of credibility which had been found in earlier research?

Conclusion

The ectomorph (thin) and mesomorph (muscular) were not significantly different from each other, but both were significantly more credible than the endomorph (fat) on two dimensions of source credibility. This was suggested to be because of the physical attractiveness of these body types in today's society. This effect was similar for both men and women perceivers.

Table 1

Source Credibility Scale Means for Three Body Types

Condition	Qualification	Safety
Male Receivers		
Endomorphic male source	14.00	11.77
Mesomorphic male source	16.00	13.51
Ectomorphic male source	16.29	14.54
Female Receivers		
Endomorphic male source	13.50	12.26
Mesomorphic male source	15.214	13.82
Ectomorphic male source	15.219	13.43

Note. The greater the mean, the more favorable the perception.

Table 2

F-ratios of Dimensions of Source Credibility

Source	Qualification	Safety
Factor A (body type: Endo, Meso, Ecto)	4.432*	9.697**
Factor B (sex of rec. male or female)	1.645	.069
A X B	.073	1.654

*$p < .02$.

**$p < .001$.

Table 3

Cell Mean Comparisons for Qualification and Safety/Trustworthiness Dimensions of Source Credibility

Dimension			
Qualification	Endomorph<Ectomorph	$t = 2.70^{**}$,	df = 106
	Endomorph<Mesomorph	$t = 2.50^{*}$,	df = 107
	Mesomorph<Ectomorph	$t = 0.205$,	df = 111
Safety/Trustworthiness	Endomorph<Ectomorph	$t = 4.16^{***}$,	df = 106
	Endomorph<Mesomorph	$t = 3.48^{**}$,	df = 107
	Mesomorph<Ectomorph	$t = 0.697$,	df = 111

$^{*}p < .02$.

$^{**}p < .01$.

$^{***}p < .001$.

Table 4

Analysis of Variance Summary for Student Attitude toward Legalizing Gambling

Source	Df	SS	MS	F	Probability
Body Type	2	294.35	147.17	1.68	.19
Sex of Receiver	1	698.19	698.19	7.98	.006
Interaction	2	345.96	172.98	1.98	.14
Bet. S's	5	1338.49	267.70		
Within S's	159	13904.13	87.45		
Total	164	15242.63	92.94		

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